SENATE BILL No. 1505

Introduced by Senator Lowenthal

February 23, 2006

An act to add Sections 43868 and 43869 to the Health and Safety Code, relating to fuel.

LEGISLATIVE COUNSEL'S DIGEST

SB 1505, as introduced, Lowenthal. Fuel: hydrogen alternative fuel.

Existing law imposes various limitations on emissions of air contaminants for the control of air pollution from vehicular and nonvehicular sources. Existing law generally designates the State Air Resources Board as the state agency with the primary responsibility for the control of vehicular air pollution. Under existing law, the state board, in conjunction with other state agencies, is required to develop and adopt a state plan to increase the use of alternative fuels, as defined. Existing law also requires retail sellers, as defined, to procure a specified percentage of electricity generated by eligible renewable energy resources, as defined, called a renewables portfolio standard.

This bill would declare the legislature's intent to increase the production and use of hydrogen based alternative fuels by adopting the Hydrogen Highway Network Blueprint Plan developed by the California Environmental Protection Agency.

The bill would require the state board to adopt regulations that will ensure that the production and use of hydrogen created pursuant to the hydrogen highway network contributes to the reduction of greenhouse gas emissions, criteria air pollutants, and toxic air contaminants. The regulations would be required to include measures to ensure that greenhouse emissions from new hydrogen based vehicles are at least 30% lower, and emissions of nitrogen oxides plus reactive gases are at least 50% lower than emissions from the average gasoline vehicle. Furthermore, the regulations would be required to include measures to

ensure that the emissions of toxic air contaminants for hydrogen be reduced to the greatest extent feasible when compared with gasoline vehicles. Also, the regulations would be required to ensure that 33.3 % of the hydrogen produced be made from renewable sources, and that the renewable sources of electricity used to produce hydrogen fuel will not be counted towards meeting the renewables portfolio standard.

The bill would also require the state board to adopt further regulations that are to apply in any year in which the volume of hydrogen produced or dispensed for transportation purposes exceeds 500,000 kilograms, to ensure that the production and use of hydrogen fuels for motor vehicles, not limited to the hydrogen highway network but including all of California, contribute to a reduced dependence on petroleum, as well as a reduced dependence on emissions as described above except, that no more than ½ of the renewable sources of electricity used to produce hydrogen fuel could be counted toward meeting the state's renewables portfolio standard.

The bill would also require the board to review the renewable source and emission requirements of the bill every 3 years and make them more stringent when feasible and when that would not substantially hinder the development of the state's clean hydrogen economy. The bill also requires the board to create a handbook on how the relevant parties can comply with all these requirements. Finally the bill requires the California Environmental Protection Agency, Justice Advisory Committee to meet to discuss the production and distribution of hydrogen fuel in the state.

Vote: majority. Appropriation: no. Fiscal committee: yes. State-mandated local program: no.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) A network of hydrogen production and distribution facilities for fueling vehicles is developing in California.

(b) The California Environmental Protection Agency has produced the California Hydrogen Highway Blueprint Plan as part of the state's efforts to diversify its sources of transportation fuels available to California motorists by expanding the network

of hydrogen fueling stations and availability of hydrogen-powered vehicles in the state.

(c) The California Hydrogen Highway Blueprint Plan establishes initial goals for the greenhouse gas emissions and renewable energy content of hydrogen produced for use in the hydrogen highway network.

(d) The production of hydrogen fuels for use in vehicles, when made from renewable sources of energy, emits virtually zero net greenhouse gases into the atmosphere.

(e) The use of hydrogen fuel in motor vehicles can reduce or, when used in a fuel cell vehicle, virtually eliminate tailpipe emissions of criteria pollutants.

(f) Hydrogen fueling stations can reduce local emissions when compared with today's gasoline fueling stations.

(g) The widespread use of hydrogen fuels in transportation can reduce California's dependence on petroleum-based fuels, and help enhance our nation's energy security.

(h.) Moving toward a hydrogen-based economy with an emphasis on hydrogen fuel production from clean, renewable sources could create thousands of new clean technology jobs for California residents.

(i) Natural gas, while cleaner than other fossil fuels, still emits heat-trapping greenhouse gases, and therefore should be considered a transitional strategy to a hydrogen fuel economy.

(j) A hydrogen highway network in the state should produce hydrogen fuel from clean, renewable sources and reduce greenhouse gases and other pollutants compared to petroleum-based fuels.

(k) Hydrogen fuels are a central part of achieving the state's Zero Emission Vehicle Program.

(*l*) According to the California Hydrogen Highway Blueprint Plan, the absence of specific goals for reducing emissions and using renewable resources to produce hydrogen fuel might actually increase greenhouse gas and particulate matter emissions relative to petroleum fueled vehicles.

SEC. 2. Section 43868 is added to the Health and Safety Code, to read:

43868. (a) It is the intent of the Legislature that the hydrogen highway network outlined in the California Hydrogen Highway

Blueprint Plan be developed in a clean and environmentally responsible and advantageous manner.

(b) It is further the intent of the Legislature that the state board work with other relevant state agencies to promote the production of hydrogen as part of a strategy to reduce the state's dependence on petroleum, achieve the state's greenhouse gas emission reduction targets, and improve air quality for the state's residents.

(c) It is further the intent of the Legislature that the California Environmental Protection Agency and the state board, in the development of the hydrogen highway network, include in their priorities the deployment of hydrogen fuel cell transit buses.

SEC. 3. Section 43869 is added to the Health and Safety Code, to read:

43869. The state board shall, no later than July 1, 2007, develop and, after at least two public workshops, adopt regulations to ensure the following:

(a) That the production and use of hydrogen in the California hydrogen highway network contributes to the reduction of greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions. The regulations shall, at a minimum, do all of the following:

(1) Require that well-to-wheel emissions of greenhouse gases for the average hydrogen powered vehicle in the hydrogen highway network are at least 30 percent lower than emissions for the average new gasoline vehicle in California when measured on a per-mile basis.

(2) Require that no less than 33.3 percent of the hydrogen produced or dispensed in the hydrogen highway network be made from eligible renewable energy resources as defined in subdivision (a) of Section 399.12 of the Public Utilities Code.

(3) Prohibit the specific renewable sources of electricity used to produce hydrogen fuel from being counted toward meeting the state's renewables portfolio standard as required by Article 16 (commencing with Section 399.11) of the Public Utilities Code.

(4) Require that all hydrogen dispensed in the hydrogen highway network is generated so that local well-to-tank emissions of nitrogen oxides plus reactive organic gases are at least 50 percent lower than well-to-tank emissions of the average motor gasoline sold in California when measured on an energy equivalent basis.

(5) Require that well-to-tank emissions of relevant toxic air contaminants for hydrogen dispensed in the hydrogen highway network be reduced to the maximum extent feasible when compared to well-to-tank emissions of toxic air contaminants of the average motor gasoline on an energy-equivalent basis.

(6) Require that providers of hydrogen fuel for transportation in the state report to the state board the annual volume of hydrogen fuel dispensed and the method by which the dispensed hydrogen was produced.

(b) The regulations shall also require that, in any year in which the volume of hydrogen produced or dispensed for transportation purposes in California exceeds 500,000 kilograms, the production and use of hydrogen fuels for motor vehicles in the state, including, but not limited to, the hydrogen highway network, shall contribute to a reduced dependence on petroleum, as well as reductions in greenhouse gas emissions, criteria air pollutant emissions, and toxic air contaminant emissions. For the purpose of this subdivision, the regulations shall, at a minimum, do all of the following:

(1)Require that well-to-wheel emissions of greenhouse gases for the average hydrogen powered vehicle in California are at least 30 percent lower than emissions for the average new gasoline vehicle in California when measured on a per-mile basis.

(2) Require that no less than 33.3 percent of the hydrogen produced or dispensed in California for motor vehicles be made from eligible renewable energy resources as defined in subdivision (a) of Section 399.12 of the Public Resources Code.

(3) Allow no more than one-half of the specific renewable sources of electricity used to produce hydrogen fuel pursuant to paragraph (2) from being counted toward meeting the state's renewable portfolio standard as required by Article 16 (commencing with Section 399.11) of the Public Utilities Code.

(4) Require that all hydrogen dispensed in California for motor vehicles is generated so that local well-to-tank emissions of nitrogen oxides plus reactive organic gases are at least 50 percent lower than well-to-tank emissions of the average motor gasoline sold in California when measured on an energy equivalent basis.

(5) Require that well-to-tank emissions of relevant toxic air contaminants for hydrogen dispensed in California be reduced to

the maximum extent feasible when compared to well-to-tank emissions or toxic air contaminants of the average motor gasoline on an energy-equivalent basis.

(c) The state board, in consultation with other relevant agencies as appropriate, shall review the renewable resource requirements adopted pursuant to paragraphs (2) and (3) of subdivision (a) and paragraphs (2) and (3) of subdivision (b) every three years and shall increase the requirements if it determines that it is technologically feasible to do so and will not substantially hinder the development of the state's clean hydrogen economy.

(d) The state board shall review the emission requirements adopted pursuant to paragraphs (1), (4), and (5) of subdivision (a) and paragraphs (1), (4), and (5) of subdivision (b) every three years and shall strengthen the requirements if it determines it is technologically feasible to do so and will not substantially hinder the development of the state's clean hydrogen economy.

(e) The state board shall produce and periodically update a handbook to inform and educate motor vehicle manufacturers, hydrogen fuel producers, hydrogen service station operators, and other interested parties on how to comply with the requirements set forth in this section. This handbook shall be made available on the agency's Web site.

(f) The Secretary for Environmental Protection shall convene the California Environmental Protection Agency, Environmental Justice Advisory Committee at least twice annually to solicit the committee's comments on the production and distribution of hydrogen fuel in the state.

(g) As used in this section, "well-to-tank emissions" means emissions resulting from production of a fuel, to and including its transportation into the fuel tank of a consumer vehicle, and "well-to-wheel emissions" means emissions resulting from production of a fuel, to and including its consumption in a vehicle.

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